

## **Section 4. Fire**

### **IN THE EVENT OF A FIRE:**

- **CONFINE THE FIRE BY CLOSING ALL DOORS**
- **ACTIVATE THE NEAREST FIRE ALARM STATION AND NOTIFY OTHERS IN THE AREA OF EMERGENCY**
- **CALL THE FIRE DEPARTMENT BY DIALING 9-911**
- **FIGHT FIRE IF SAFE TO DO SO**
- **EVACUATE THE AREA IN AN ORDERLY MANNER, DO NOT USE ELEVATORS**

### **Fire Prevention**

Three (3) things are necessary before a fire can start:

1. means of ignition
2. oxygen
3. combustible material

The following precautions should ensure that 1 and 3 are kept to a minimum:

- Smoking is banned on all Federal property
- If you require flammable products, store them in a flammable storage cabinet, or in an explosion-proof refrigerator in leak-proof containers.
- Electrical equipment should only be used in correct places and must be turned off when not in use. Frayed cords or damaged equipment must not be used.
- Switch off computer terminals, photocopiers, and small battery chargers before leaving each day.
- Notify the IRF Facility Manager regarding unsafe equipment, wiring etc.
- Make sure all passageways and exits (including emergency exits) are kept clear at all times.
- Do not obstruct access to fire extinguishers or other appliances or hang things on them.
- If, after the above precautions a fire occurs, prompt action will prevent a small fire from becoming a big fire.

- If a fire occurs in a desk drawer, wastepaper basket, or cupboard shut the door or drawer or cover the container before going for a fire extinguisher.
- Fire extinguishers are placed at strategic locations around the buildings. It is the responsibility of all staff to know the locations and types of extinguishers available.

## How to Fight a Fire

- Remove everyone from immediate danger but **don't take any risks**.
- Activate nearest red fire alarm station.
- Attempt to extinguish the fire by :
  - **Smothering**
  - **Fire Extinguisher**
- Follow instructions given over the fire enunciation system
- Do not use extinguishers too close to the fire as the force of the jet may spread burning material.

## Using a Fire Extinguisher

All extinguishers at IRF have similar modes of operation:

- **Pull pin**
- **Aim nozzle at base of fire**
- **Squeeze trigger**
- **Sweeping motion over base of fire.**

Never return a partially used extinguisher to its hook – advise the Occupational Safety and Health Manager who will arrange recharging.

## IRF Fire Alarm System

The fire alarm system in the IRF is a **two-stage** addressable system with fire phones and live communications. The two-stage alarm system is designed to give up to five minutes, after activation, for investigation to determine if activation was accidental or a real fire.

Should a detector, pull station, sprinkler system or standpipe be activated, the following automatically occurs:

- an alarm sounds at the IRF Security Control Desk (SCD). To aid in alarm identification and response communications, there are two enunciation panels, one at IRF SCD (Rm# 1A102A) and another at the RML Security Control Center in the Visitor's Center that is manned 24/7.

- the **FIRST STAGE ALARM** sounds throughout the IRF. The **FIRST STAGE** sound is a slower alert accompanied by flashing strobes.
- if a sprinkler system is activated, the fire pump will also start
- in the event of a power failure emergency lighting will remain on

The SCD operator will then use the fire phone to direct the appropriate IRF Staff to investigate the alarm. The SCD operator will keep all other IRF Staff fully informed of the situation.

- If deemed necessary, a **SECOND STAGE ALARM** can be activated at any time by key activation of any of the switches associated with the pull stations.
- the **SECOND STAGE ALARM**, which is a louder and faster signal, sounds throughout the area from which the alarm was activated.
- Should it be necessary to evacuate any areas, the **SECOND STAGE ALARM** will be accompanied by an **EVACUATE** signal that will be activated at the IRF Security Control Desk only to the areas effected.

### **Alarm Demonstrations**

Every new staff member will be shown a video presentation of all emergency alarms that they may hear at the IRF.

The audible and visual alarms will also be demonstrated on the first working Tuesday of every month, to re-familiarize staff of such alarms.

### **General Fire Evacuation Procedures**

The safety and success of an evacuation relies on adherence to these instructions.

#### **Keep Calm - Panic Is Infectious**

**Do not use elevators for evacuation of the building.**

**NOTE: Staff members must ensure that any visitor is accompanied and accounted for during any necessary evacuation.**

The safe and orderly evacuation of all personnel from the building is the first and most important action to be taken in the event of an uncontrolled fire or other emergency in the IRF facility.

There are illuminated exit signs showing safe exit routes at doorways and conspicuous sites in the corridors. A map showing emergency exits and equipment should be posted at the entrance to each lab. Take a few minutes to familiarize yourself with the primary and alternate exit routes in your work area(s). *Don't block these exits, even temporarily.*

After exiting the building, go to your evacuation assembly point (see RML Emergency Evacuation Procedure Summary – Appendix 5). Report to your supervisor and remain there until the Incident Coordinator or his/her designee notifies you that it is safe to return.

## **Fire Drills**

The Occupational Safety and Health Manager is required to conduct regular (semi-annual) emergency evacuation drills for the IRF, and to ensure staff and especially new staff are fully familiar with evacuation procedures and emergency exits.

All staff that are present in a work area when an evacuation drill is taking place must participate in the drill and follow directions from the Occupational Safety and Health Manager.

Due to the nature of the work being done at the IRF and the biocontainment restrictions of the facility, prior notification of all fire drills will be posted on the bulletin board at the front entrance and electronically no less than seven (7) days in advance of a drill and will include date and time of the fire drill.

## **IRF Fire Detection and Suppression**

Maintenance and inspections schedules for fire suppression and detection systems can be found in Appendix 7

### **Fire Alarm System**

See description above.

### **Fire Detection System**

**Heat Detectors:** ceiling mounted detectors which warn of potential fire situations by sensing acute temperature increases.

**Smoke Detectors:** smoke sensitive devices mounted in the ceiling and some portions of the ventilation system.

**Sprinkler system:** heat sensitive heads will facilitate the direction of the fire suppression in the effected areas to minimize unnecessary water damage to sensitive and valuable scientific equipment.

### **Portable Fire Extinguishers**

Portable fire extinguishers are intended as a first measure to cope with fires of a limited size. The four basic classifications of fire are classes A, B, C, and D. All fire extinguishers are rated and labelled with standard symbols for the corresponding classes of fires they can be utilized for. They are placed in strategic and visually observable locations throughout the building. The following types are found in the IRF.

- 5 lb Dry Chemical ABC
- 10 lb Dry Chemical ABC
- 10 lb CO2

## Emergency Lighting

The facility is supported by emergency generators. If the power supply to the building is interrupted, the lights will return to normal as soon as the back-up generators are tripped and the appropriate transfer switches have engaged. If there is a complete power failure emergency back lights will automatically turn on for safe egress.

## Elevators

**Elevators are not to be used for emergency exit.** The elevators will automatically return to the first floor upon activation of the fire alarm.

## Emergency Exits

In all areas, exits and exit routes are marked with clearly visible exit signs. The exit routes for each area are posted and it is your responsibility to familiarize yourself with these routes. The IRF facility is a complex facility and area personnel should ensure they are familiar with the exit routes of the different areas soon after beginning work in a new area.

Some of the doors are protected by magnetic interlocks to maintain the biocontainment capabilities of the laboratory. If you come to an emergency exit that is protected by these there is either a red pull station or a red push button which, when activated, will release the door magnetic lock. **Do Not Hesitate To Activate These Switches During Life Threatening Emergencies.**

## Responsibilities/Duties In Case of Fire

### All Building Occupants

Notwithstanding the fact that there are employees in the building trained to assist with emergency evacuation procedures, occupants are responsible for their own safety. Everyone should know the procedures to be followed in the event of a fire or other emergency.

Anyone who sees fire, smoke or smells gas must:

- Confine the fire by closing all doors
- Activate the nearest red fire alarm station

- Call 9-911 or dial 0 for the IRF Security Control Desk and report the incident
- Evaluate the situation, determine the source, fight fire if safe to do so
- If not, evacuate the area immediately using the nearest safe exit and proceed to Evacuation Assembly Area.
- Do not use elevators for evacuation purposes in the event of a fire or other emergency.
- **Outside of regular working hours (8AM - 5PM )**, occupants must activate the fire alarm, evacuate the building by the nearest safe exit and proceed to the Evacuation Assembly Area.

### **Mobility-Impaired Persons**

Occupants who require assistance in evacuating during an alarm are responsible for:

- identifying themselves to their supervisor and/or the Occupational Safety and Health Manager so that they can be registered and a pre-plan can be established (see Appendix 8)
- assisting the Occupational Safety and Health Manager in appointing Evacuation Assistants
- advising the Evacuation Assistants on how much assistance may be required
- practicing the evacuation procedures

#### **Duties - In Case of Alarm**

**When the alarm sounds**, mobility-impaired persons should go with their Evacuation Assistants directly to the pre-determined marshalling point. In the event that this location is inaccessible, both mobility-impaired persons and their assistant should go to their second pre-determined stairwell/location.

Once the main flow of evacuees has passed, the mobility-impaired persons should leave the building with their Assistant, in short stages if necessary.

Return to the building only when authorized by the Incident Coordinator

### **Evacuation Assistants for Mobility-Impaired Persons**

**NOTE: With few exceptions (e.g. visual impairment), a mobility-impaired person requires a minimum of two Evacuation Assistants.**

Evacuation Assistants shall be appointed by the Occupational Safety and Health Manager to assist with the evacuation procedures for the mobility-impaired person, subject to the agreement of the mobility-impaired person. The mobility impaired and their supervisor shall be so advised.

Evacuation Assistant Team Members should meet the following criteria:

- They should have no mobility impairment of their own (e.g. a heart condition, epilepsy, asthma).
- Pairs of Evacuation Assistant Team Members should work the same hours as each other and the mobility-impaired person.
- They should work either in the same area or close enough so that they can respond quickly.
- Know how to operate all specialized evacuation equipment.

### **Duties - In Case of Alarm**

- respond immediately to the mobility-impaired person
- follow procedures for Mobility-Impaired Persons and Evacuation Assistants for Mobility-Impaired Persons

### **Occupant Emergency Coordinator**

The (OEC) will:

- Take charge, direct and supervise the implementation of the Emergency Evacuations in the IRF.
- Give his/her attention to the safety and care of the staff and persons by ensuring that all in danger are moved out of the hazard zone.
- Upon the arrival of the Fire Department, inform them of the conditions in the affected area as last known when containment was accomplished (if applicable).
- Once an assessment has been carried out by the fire department, report the conditions to the IRF Security Control Desk or if conditions warrant, report to the RML Security Control Center.
- Act on any questions and/or orders given by the Fire Department concerning the safety of staff in the IRF.
- Direct evacuation if necessary or as directed by the IRF Security Control Center or Fire Department.

### **Evacuation Coordinators**

Evacuation Coordinators are appointed for each work area (See Appendix 5 for up-to-date listings). In the event of a fire they will take control of evacuation of their area. Arrangements shall **ALWAYS** be made whereby assigned duties can be undertaken in the absence of an Evacuation Coordinator or his/her alternate. This may require the appointment and training of additional Evacuation Coordinators.

**NOTE: All staff must obey the instructions of the Evacuation Coordinators**

### **Duties – General**

- The evacuation of **ALL** personnel, including visitors in their area or on their floor, in the event of fire or other emergencies occurring during building regular working hours (8AM - 5PM)
- Notifying the IRF Security Control Center of all such emergencies
- Being familiar with the building fire safety plan and acting in accordance with all of the provisions of the emergency procedures.
- Making on-the-spot decisions for the safe evacuation of occupants during an emergency situation, taking into consideration existing conditions
- Attending meetings and undertaking training when necessary.
- Regular visual inspections of the floor areas and reporting of any obvious faulty conditions immediately to the IRF Facility Manager. Specifically:
  - fire doors wedged or blocked open;
  - exits, stairways and corridors obstructed;
  - red exit signs out;
  - fire fighting equipment inoperative or obstructed;
  - obvious fire hazards such as unnecessary accumulation of combustibles, the improper use of flammable liquids, temporary or unsafe electrical wiring;
  - any other unsafe conditions or practices.
- Advising the Occupational Safety and Health Manager of the name and location of mobility-impaired persons.
- Notifying the Occupational Safety and Health Manager when they are no longer located on the same floor or upon resignation as a member of the organization, so that a replacement can be appointed at the earliest possible time.

### **Duties – In Case of Alarm**

- Initiate evacuation procedures of staff
- Ensure staff has completely evacuated his/her area of responsibility
- If employees or contractors are in an area where the alarm cannot be heard, send available staff to notify them of the potential danger.
- Proceed to the designated evacuation area and determine location of individuals from his/her area of responsibility. Report headcount to the Occupational Safety and Health Manager or alternate.

## **Security**

When the fire alarm is received at the IRF Security Control Desk the security officer will:

- Open all automatic gates. [All gates which are not automatic will be left open and observed by the Closed Circuit Television system until corrective action is taken]
- Determine the location of the alarm
- Contact the Shift Engineer and inform them of the location of the alarm
- Dial 9-911 and request Fire Department response once a SECOND STAGE ALARM is sounded. (Note: Building evacuation will be automatically initiated by fire Public Address system (PA) of Second Stage Fire Alarm)
- Alert the proper RML emergency response personnel e.g. Occupant Emergency Coordinator, Biosafety Officer, Incident Coordinators, RML HAZMAT team, NIH Police
- Escort the external emergency response personnel to the scene
- Assist with site security
- Contact the roving guard and have them respond to the Evacuation Assembly Area.

## **NIH Police**

When notified, NIH Police will:

- Direct Fire Department personnel to the main entrance of the IRF.
- Assist in staging of responding personnel unless otherwise directed by NIH Police Supervisor.
- Escort Fire Department personnel to appropriate non-secured areas (NIH Police Supervisors only).
- Perform crowd and traffic control of surrounding area.

## **Shift Engineers**

Once a FIRST STAGE ALARM is activated, the IRF Security Control Desk will contact the Shift Engineer on duty. The Shift Engineer will:

- Proceed to a given location once notified of a potential fire situation
- Assess the situation and report back to IRF Security Control Desk regarding status of alarms